QUANTUM AUDIO®

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www.quantumaudio.net

((( feeel the rush )))

SOLAR SERIES

# QS12D4 - 12" SUBWOOFER

Installation Instructions / Owner's Manual

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DB RESEARCH®

## *Introduction*

Congratulations on your purchase of a Quantum Audio® state-of-the-art subwoofer component. Your selection of a Quantum Audio® car audio product indicates a true appreciation of fine musical reproduction. Whether adding to an existing system or including a Quantum Audio® subwoofer in a new system, you are certain to notice immediate performance benefits.

## *Keep your sales receipt*

Take this time to attach your sales receipt to the manual and put in a safe place. In case of any unforeseen reason this product may need warranty service, your receipt will be necessary to establish purchase date. For detailed warranty information please refer to the enclosed warranty card.

## *Recommendation*

A speaker's performance is only as good as it's enclosure. Proper installation, enclosure size and crossover frequency will maximize the overall performance of the subwoofer. To properly design and build an enclosure, knowledge of woodworking as well as the proper tools are required. We highly recommend that you have your enclosure built by an authorized Quantum Audio® retailer. However, if you decide to install it yourself, we have included the parameters of each driver and recommended enclosure sizes. If after reviewing the enclosed information you have any additional questions, please feel free to contact our technical dept.

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## WARNING!

Exposure to high sound pressure levels can cause hearing loss or damage. Listening to your system at loud levels while driving, will impair your ability to hear traffic sounds and emergency vehicles. Use common sense when listening to your system.

When installing your subwoofer enclosure in the vehicle, securely fasten it to the frame or floor pan. If the enclosure is not secured properly, there is danger of it becoming a projectile in a collision.



## *Product Specifications (Coils in Series)*

| | | |
|---|---|---|
| Nominal Impedance | (NomZ) | 4 / 4 |
| Free Air Resonance. | (FS) | 30.51 Hz |
| Total Q of driver @ FS including all resistances. | (Qts) | .67 |
| Q of driver @ FS including non-electrical resistance only. | (Qms) | 6.67 |
| Q of driver @ FS including electrical resistance only. | (Qes) | .74 |
| The driver's compliance expressed as an equivalent volume of air. (Liters) | (Vas) | 108 L |
| The driver's linear displacement (inches). | (Xmax) | .33 in. / 8.4 mm |
| The DC resistance of the driver's voice coil (ohms). | (Re) | 6.48 |
| Thermal power rating of driver (R.M.S. / Peak). | (Pe) | 250/500 |
| The driver's sensitivity (dB). | (Sens) | 87 |

SOLAR SERIES

## *Calculating Enclosures*

It is difficult to give exact box dimensions that are universal for all cars and trucks. It is for this reason that you must be able to calculate the space in which you have available in order to achieve the proper air volume required.

It is recommended to build your enclosure from 3/4" thick MDF (medium density fiberboard). Make sure the enclosure is sealed air-tight.

**Calculating External Volume**

1.) To calculate box volume, measure the outside Width x Height x Depth of the enclosure. Example 12" x 14" x 9" = 1512".

2.) Next you must convert cubic inches into cubic feet. To do this, you must divide the cubic inch total by 1728" Example 1512 ÷ 1728 = .875 Cubic Feet

**Calculating External Volume**

1.) To calculate the internal (net) volume of the above box you must first multiply the thickness of the wood you are using by Two (2). Example 3/4" x 2 =1.5".

2.) Next subtract 1.5 from each of the outside measurements of the box.

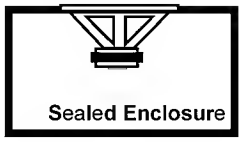
| Width | Height | Depth |
|---|---|---|
| 12-1.5=**10.5** | 14-1.5=**12.5** | 9-1.5=**7.5** |

3.) Multiply the new totals (H x W x D) Example: 10.5 x 12.5 x 7.5 = 984.375

4.) Next you must convert cubic inches into cubic feet. To do this, you must divide the cubic inch total by 1728" Example 984.375 ÷ 1728 = .5696

Recommended Enclosures
Please Note: Our suggested box volumes are given as an internal air requirements.

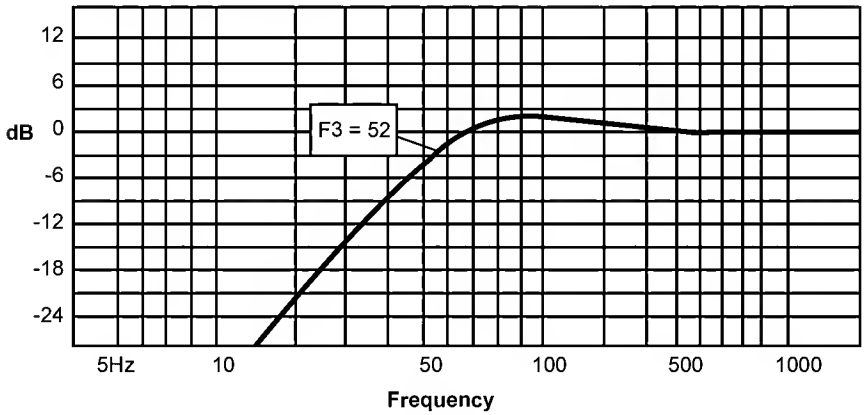
**Sealed Enclosure**




Box Volume *1.0 Cu. Ft.

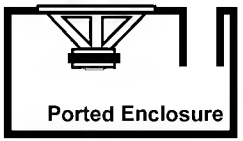
• Box is given as an Internal air volume including driver Displacement.

**QS12D4 Amplitude Response (dB/Hz)**

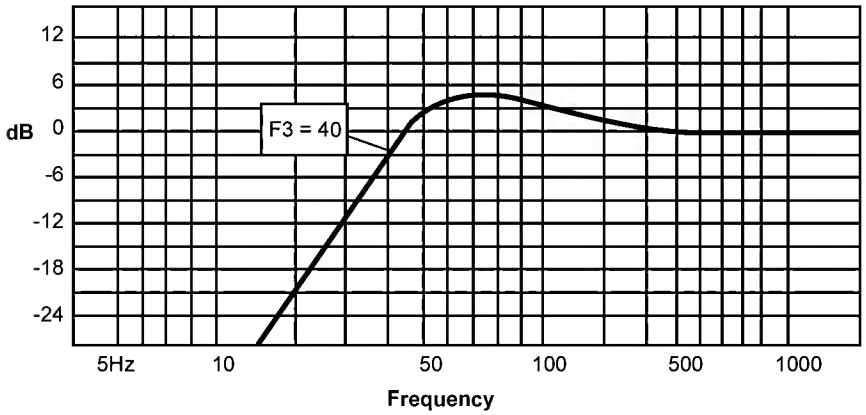



**Ported Enclosure**

| | |
|---|---|
| Box Volume | *1.8 Cu. Ft. |
| Port Frequency (Fb) | 40 Hz |
| Port Diameter | 4 Inches |
| Port Length | 9.2 Inches |




**QS12D4 Amplitude Response (dB/Hz)**



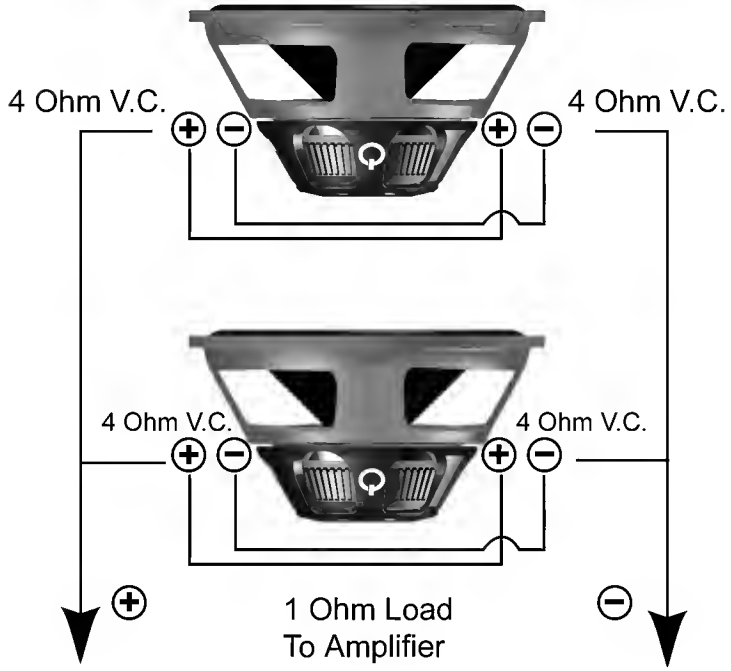

## *Connections*

The dual voice coil design gives the flexibility for many different wiring configurations to match the impedance capability of your amplifier. Here are a few examples of the possible connections.

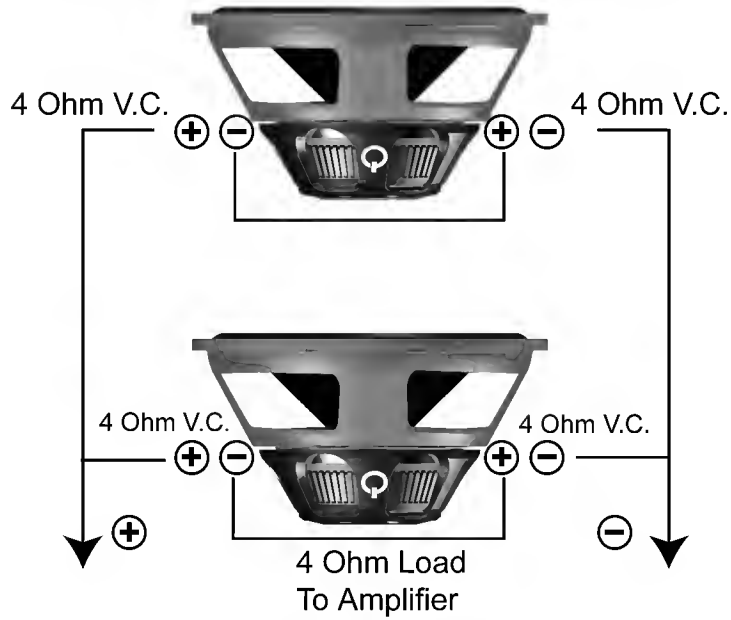
### *Parallel Connections Using Dual Voice Coil Subwoofer*


### *Series Connections Using Dual Voice Coil Subwoofer*

## *Parallel Connections*
## *Using Dual Voice Coil Subwoofers*




## *Combination Series / Parallel Connections*
## *Using Dual Vioce Coil Subwoofers*




Notes